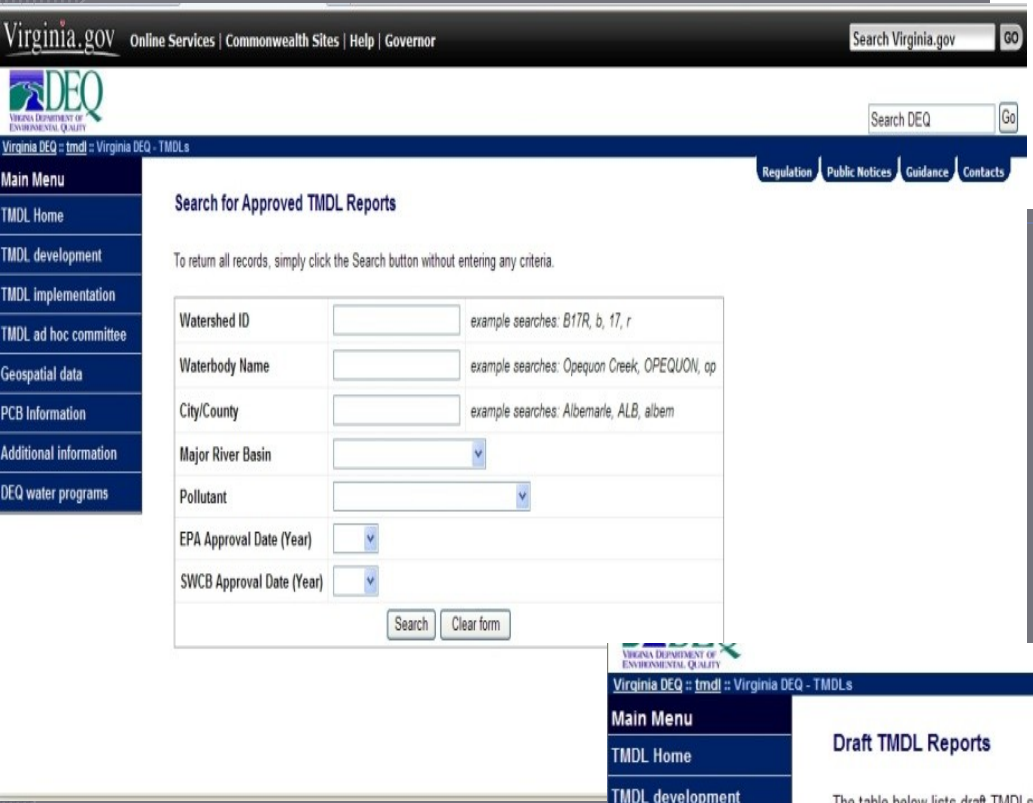
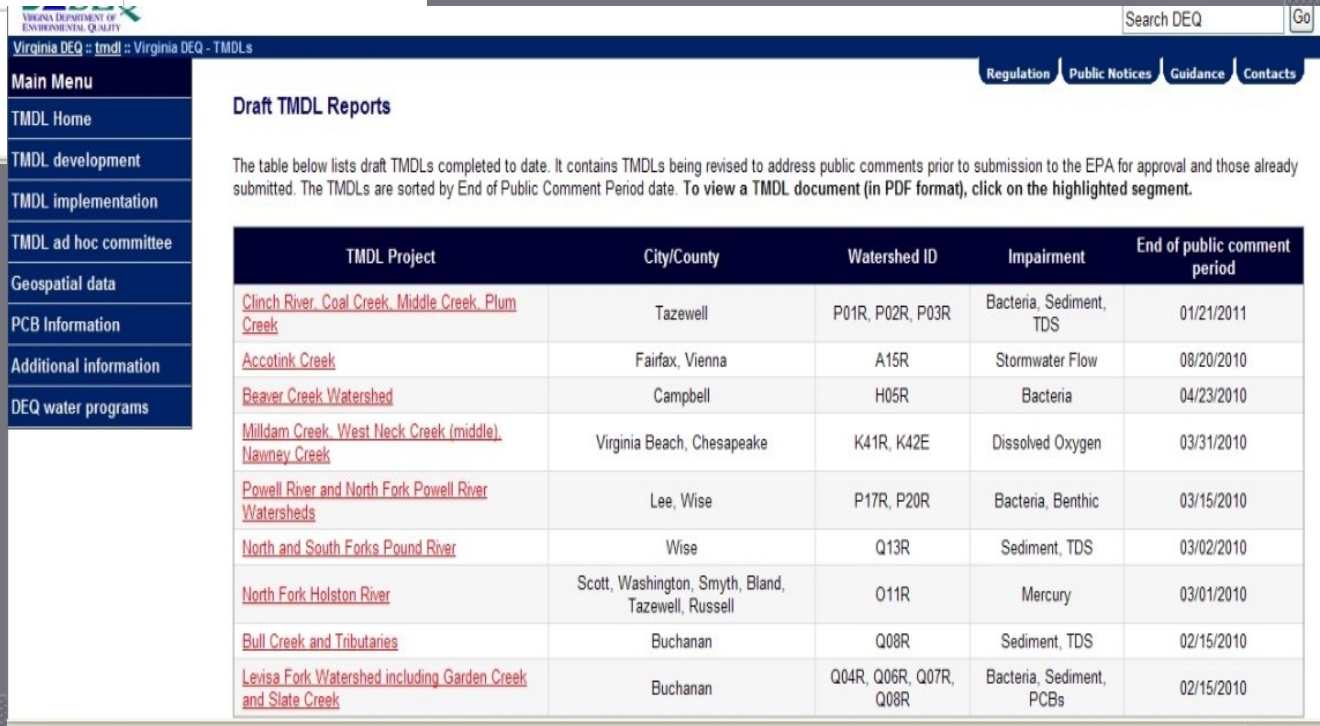
Virginia's Integrated Database-GIS Module

Virginia Department of Environmental Quality

TMDL Database Current





TMDL Project	City/County	Watershed ID	Impairment	End of public comment period
Clinch River, Coal Creek, Middle Creek, Plum Creek	Tazewell	P01R, P02R, P03R	Bacteria, Sediment, TDS	01/21/2011
Accotink Creek	Fairfax, Vienna	A15R	Stormwater Flow	08/20/2010
Beaver Creek Watershed	Campbell	H05R	Bacteria	04/23/2010
Milldam Creek, West Neck Creek (middle), Nawney Creek	Virginia Beach, Chesapeake	K41R, K42E	Dissolved Oxygen	03/31/2010
Powell River and North Fork Powell River Watersheds	Lee, Wise	P17R, P20R	Bacteria, Benthic	03/15/2010
North and South Forks Pound River	Wise	Q13R	Sediment, TDS	03/02/2010
North Fork Holston River	Scott, Washington, Smyth, Bland, Tazewell, Russell	O11R	Mercury	03/01/2010
Bull Creek and Tributaries	Buchanan	Q08R	Sediment, TDS	02/15/2010
Levisa Fork Watershed including Garden Creek and Slate Creek	Buchanan	Q04R, Q06R, Q07R, Q08R	Bacteria, Sediment, PCBs	02/15/2010

Current TMDL Database Limitations

- **No centralized system and no user interface**
  - All data stored in raw Access database tables or regional spreadsheets (permit data)
- **No link to permit sources of record** (VA DEQ's CEDS permit module)
  - Equation and permit data tracked regionally in Excel spreadsheets
- **Very limited ability to track TMDL modifications**
- **No GIS capabilities**
  - TMDL watershed boundaries (polygons) only stored in TMDL reports

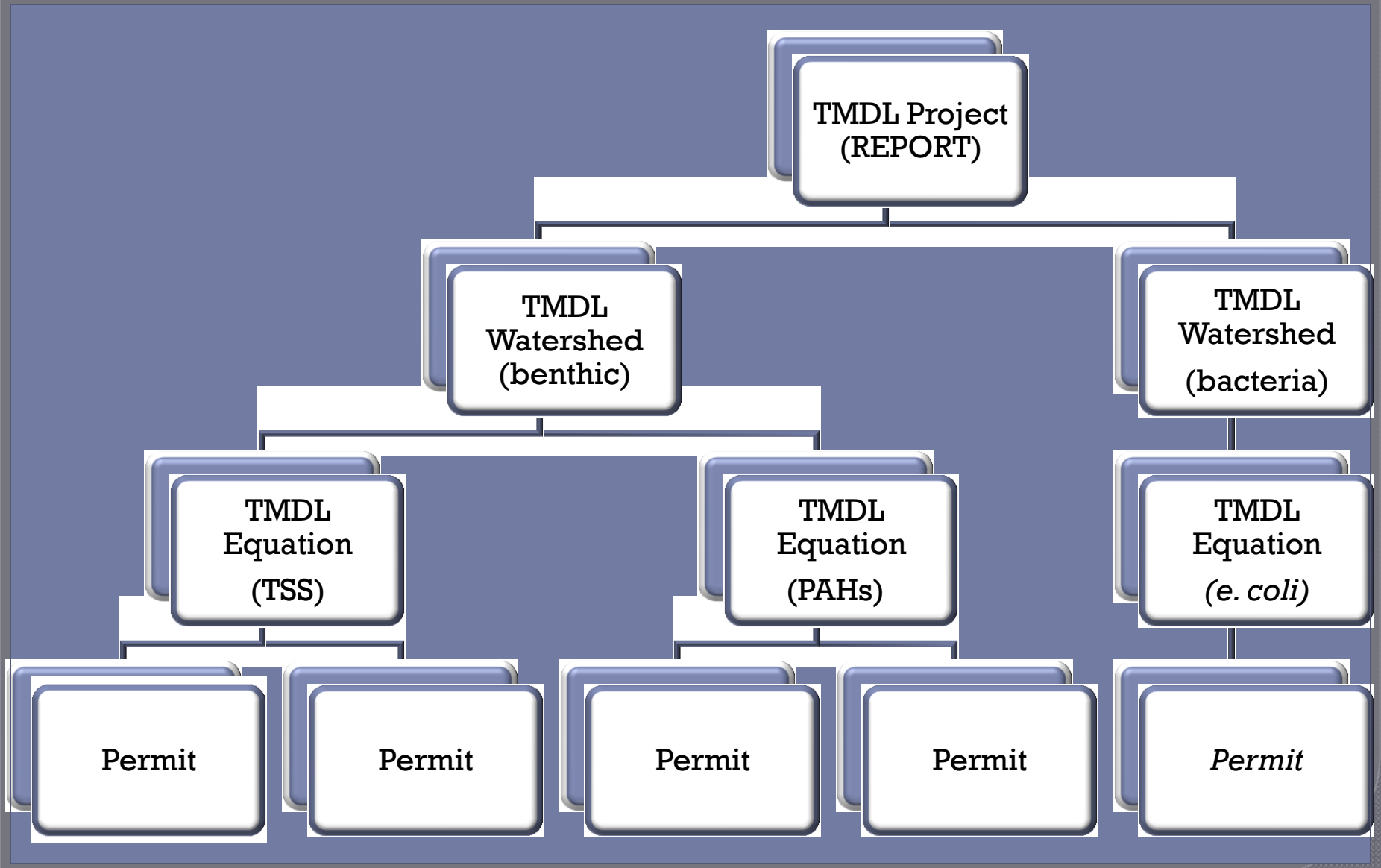
New TMDL Module Database

- **Centralized**, web browser-based database application
  - System introduces statewide consistency for tracking TMDL equations and modifications
- Part of the VA DEQ's Enterprise Database System known as CEDS
  - Integrated CEDS login (no new logins or passwords)
  - System has the **ability** to link directly to permit sources of record
- Integrated Database and GIS

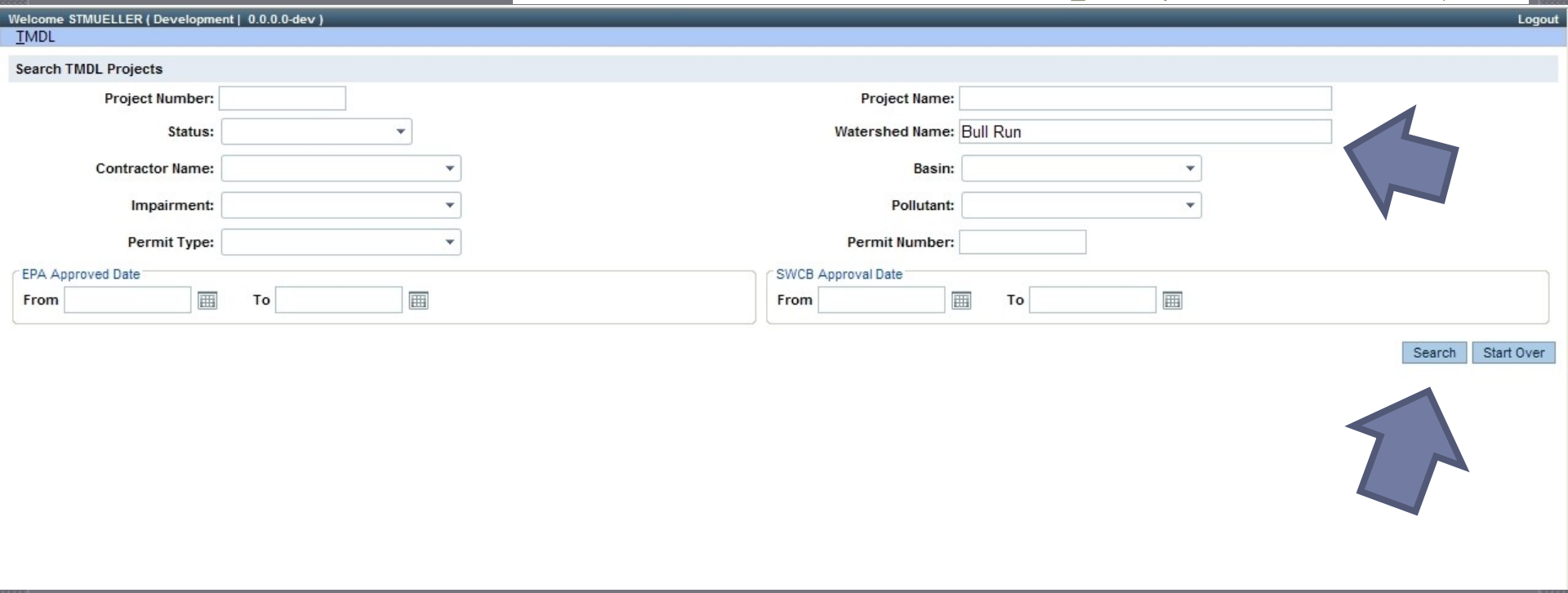
New TMDL Module
GIS

- **Deeply integrated GIS component**
  - Phase I: spatial datasets for TMDL watersheds (and permits)
  - Assessment Units (ADB spatial data)
- Ability to move directly from **GIS -> Module** and **Module -> GIS**
- As part of this project, VA DEQ is leveraging existing GIS capabilities while also upgrading to current technology
- GIS built on the same technology and framework as VA DCR and other state agencies
  - **opportunities for data sharing**

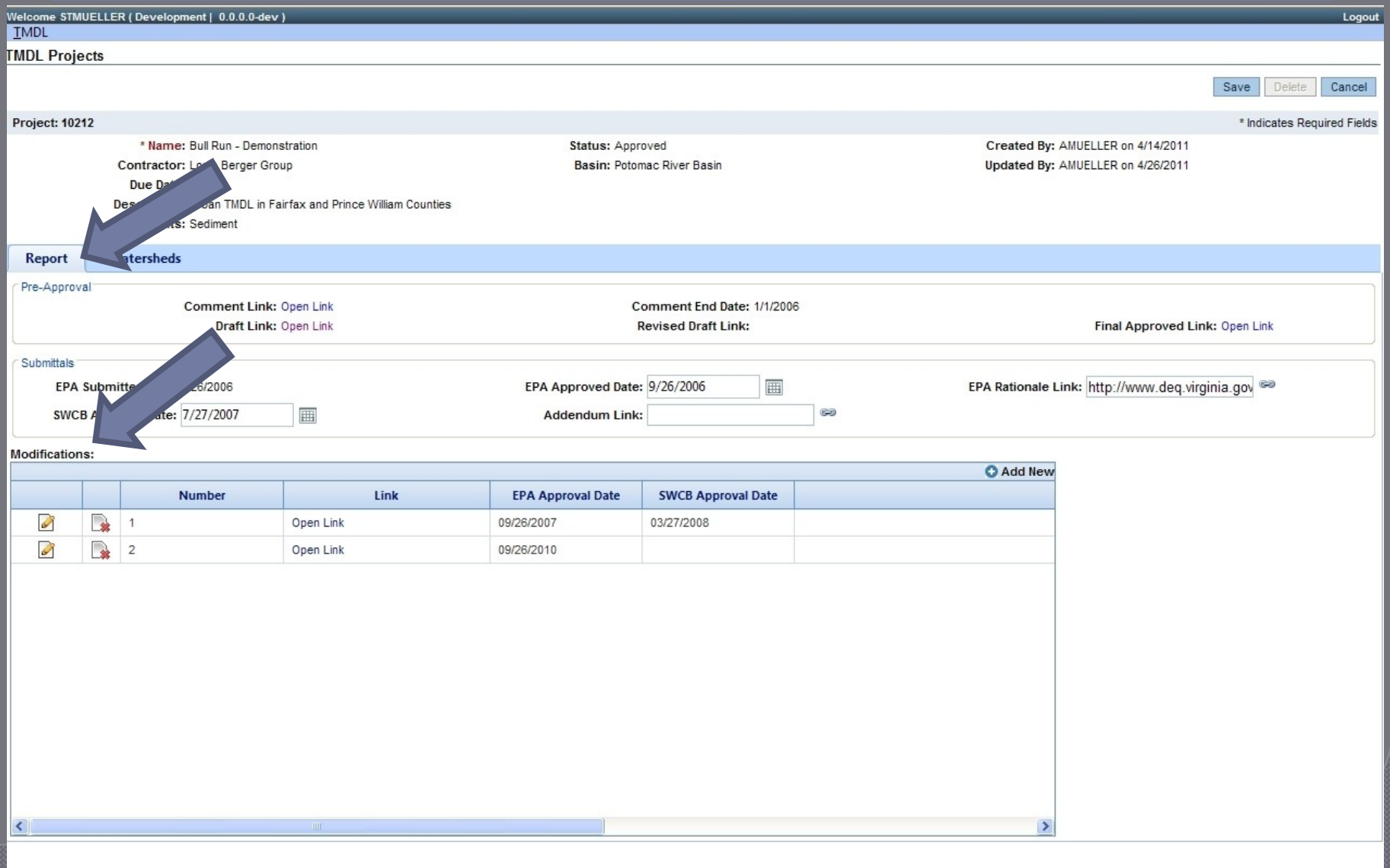
TMDL Data Model



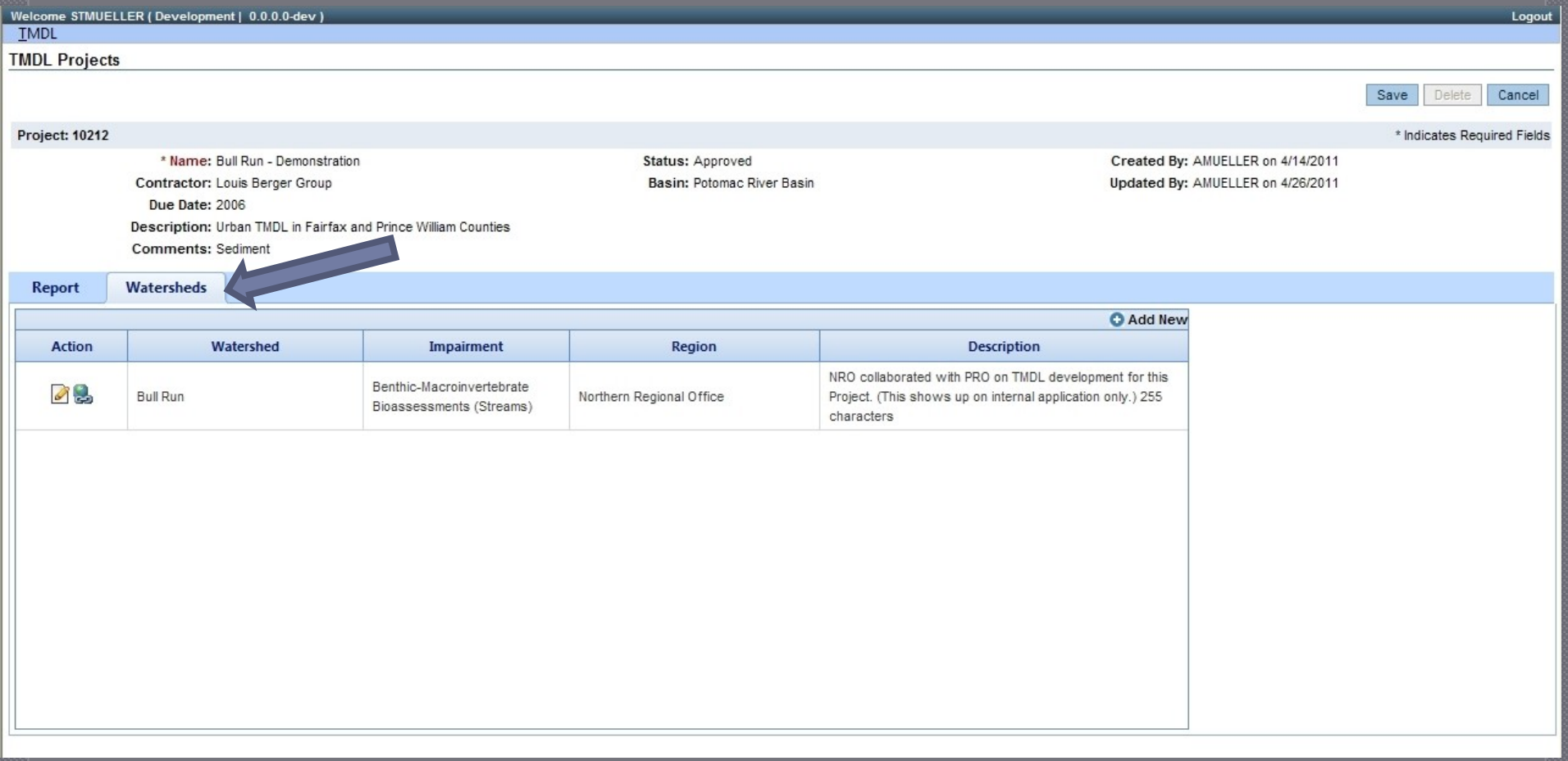
TMDL Database
Point of entry (search)



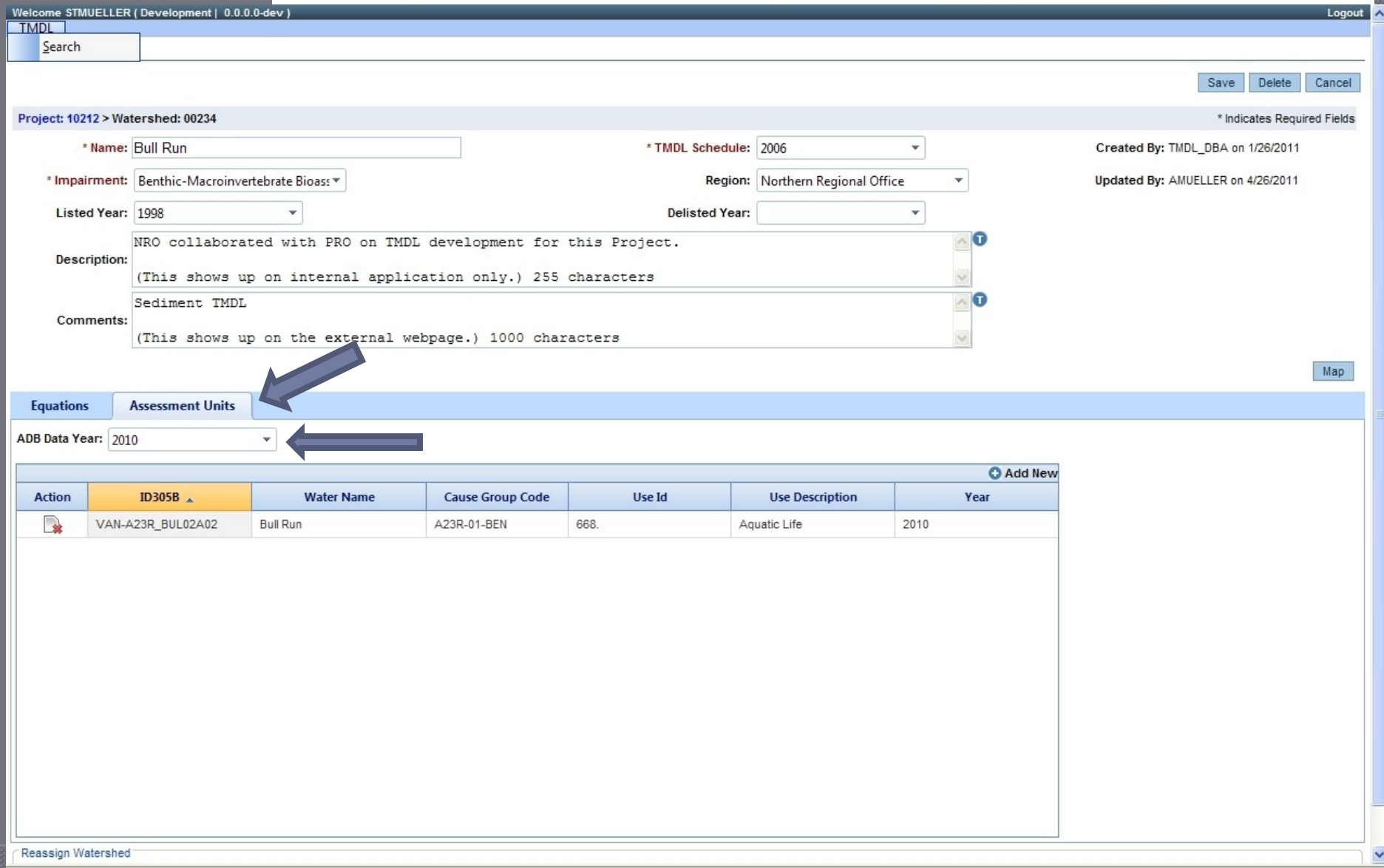
TMDL Project Screen + reports tab



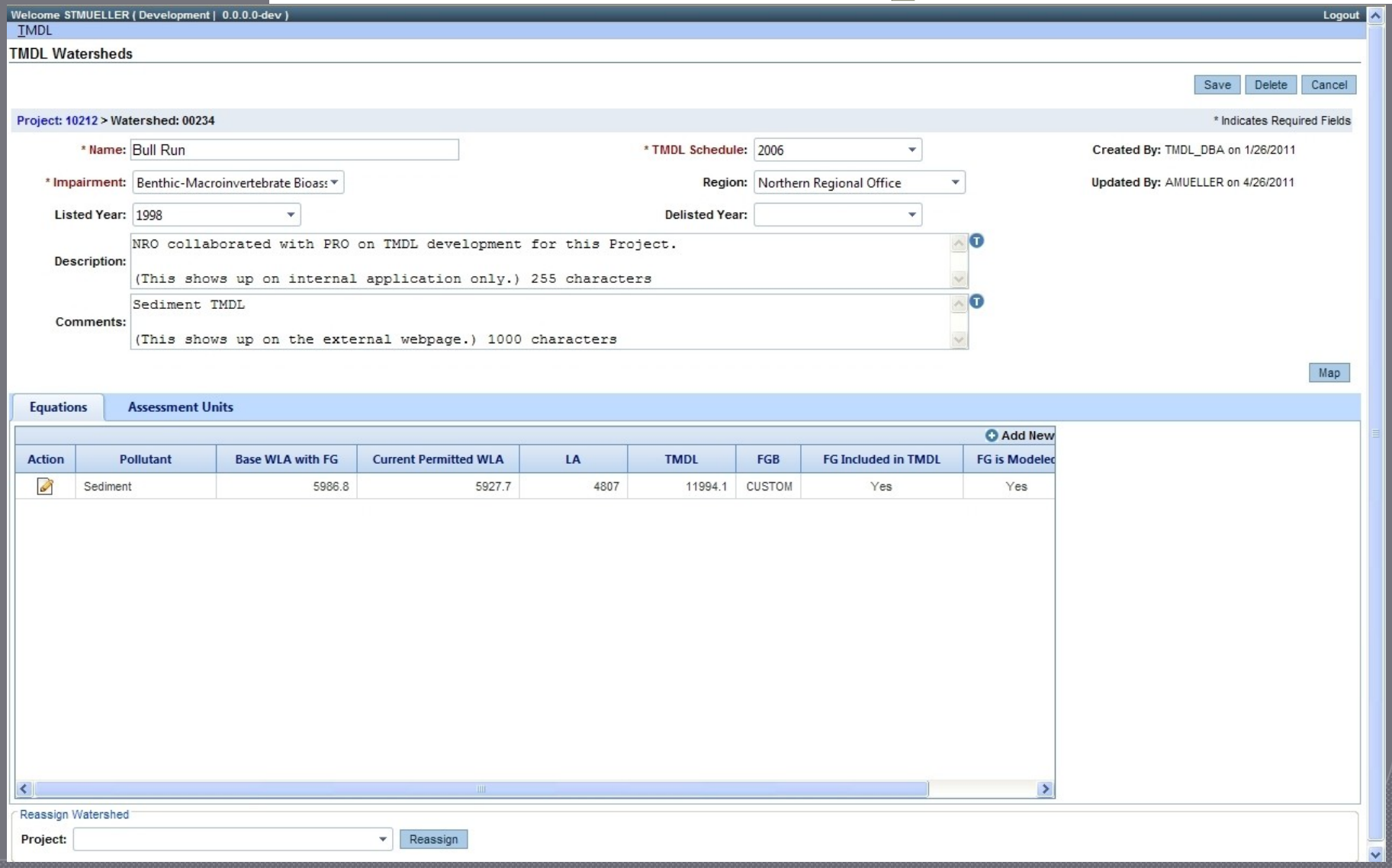
TMDL Project Screen + watersheds tab



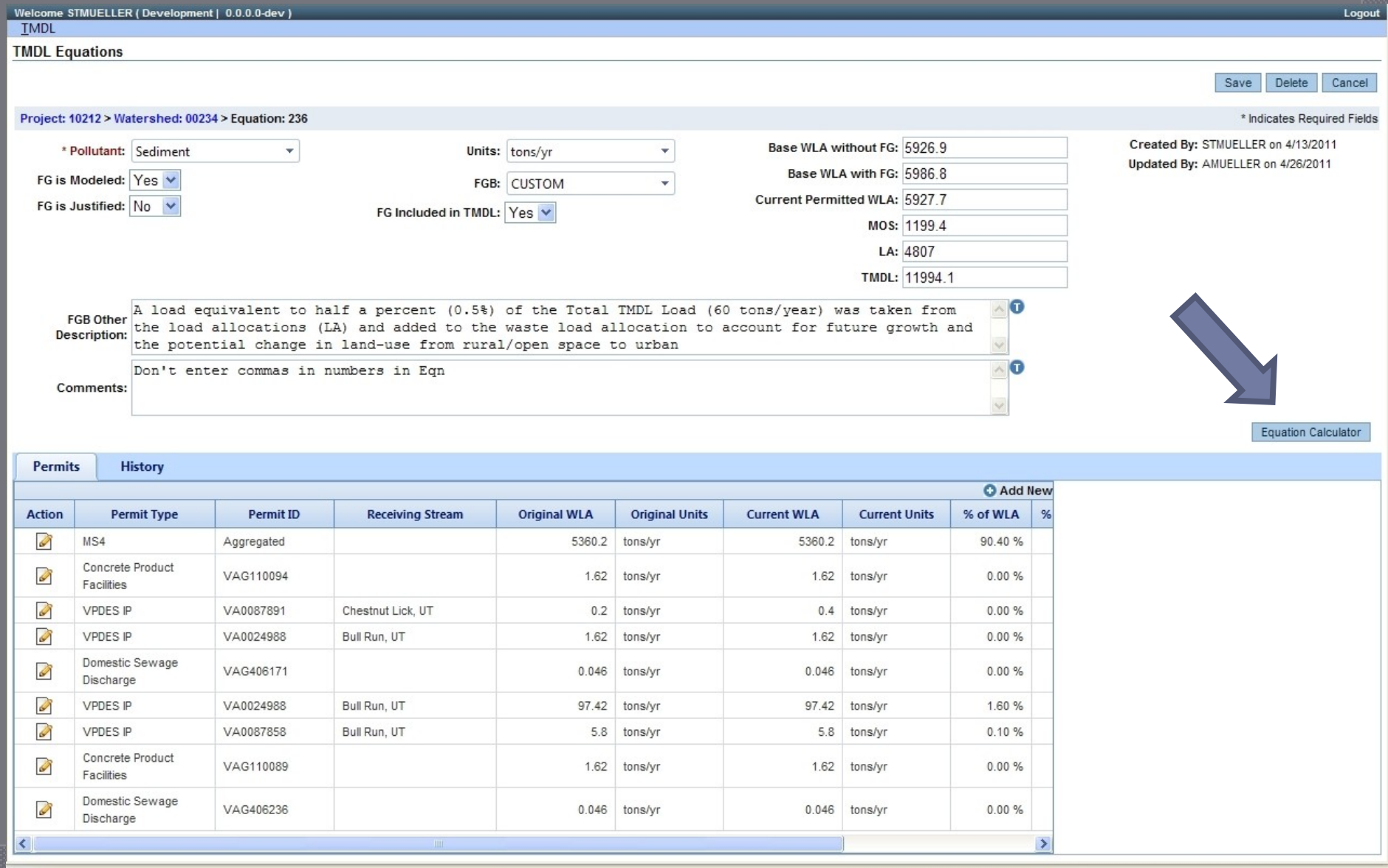
TMDL Watershed Screen + Assessment Units tab



TMDL Watershed Screen + equations tab



TMDL Equation + permit tab



Welcome STMUELLER (Development | 0.0.0.0-dev) Logout

TMDL

TMDL Equations

Save | Delete | Cancel

Project: 10212 > Watershed: 00234 > Equation: 236 * Indicates Required Fields

* Pollutant: Sediment
FG is Modeled: Yes
FG is Justified: No
Units: tons/yr
FGB: CUSTOM
FG Included in TMDL: Yes

Base WLA without FG: 5926.9
Base WLA with FG: 5986.8
Current Permitted WLA: 5927.7
MOS: 1199.4
LA: 4807
TMDL: 11994.1

Created By: STMUELLER on 4/13/2011
Updated By: AMUELLER on 4/26/2011

FGB Other Description: A load equivalent to half a percent (0.5%) of the Total TMDL Load (60 tons/year) was taken from the load allocations (LA) and added to the waste load allocation to account for future growth and the potential change in land-use from rural/open space to urban

Comments: Don't enter commas in numbers in Eqn

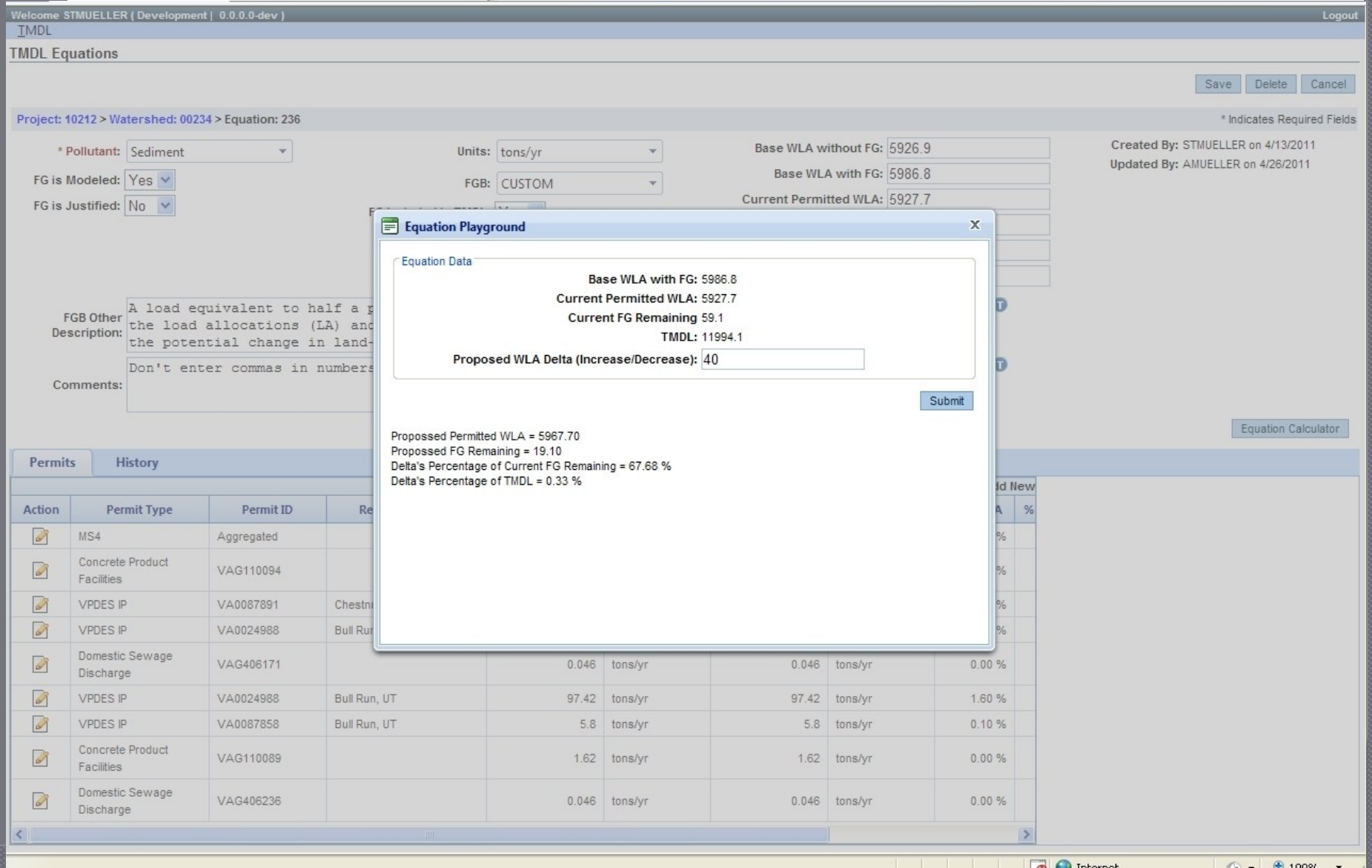
Equation Calculator

Permits | History

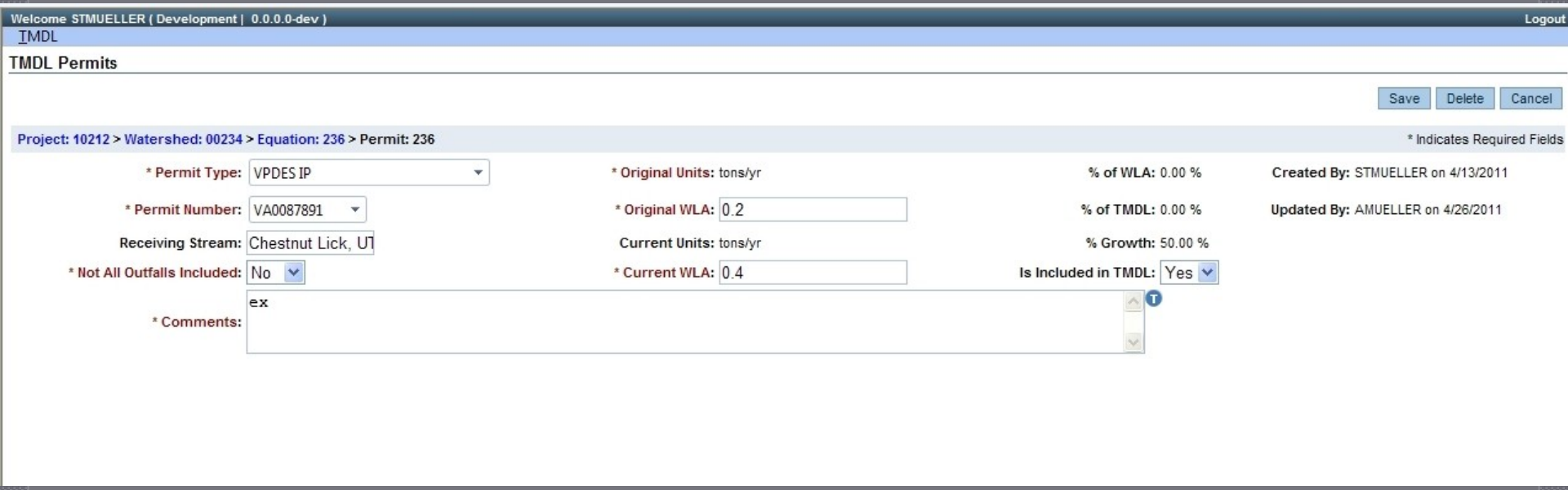
Add New

Action	Permit Type	Permit ID	Receiving Stream	Original WLA	Original Units	Current WLA	Current Units	% of WLA	%
	MS4	Aggregated		5360.2	tons/yr	5360.2	tons/yr	90.40 %	
	Concrete Product Facilities	VAG110094		1.62	tons/yr	1.62	tons/yr	0.00 %	
	VPDES IP	VA0087891	Chestnut Lick, UT	0.2	tons/yr	0.4	tons/yr	0.00 %	
	VPDES IP	VA0024988	Bull Run, UT	1.62	tons/yr	1.62	tons/yr	0.00 %	
	Domestic Sewage Discharge	VAG406171		0.046	tons/yr	0.046	tons/yr	0.00 %	
	VPDES IP	VA0024988	Bull Run, UT	97.42	tons/yr	97.42	tons/yr	1.60 %	
	VPDES IP	VA0087858	Bull Run, UT	5.8	tons/yr	5.8	tons/yr	0.10 %	
	Concrete Product Facilities	VAG110089		1.62	tons/yr	1.62	tons/yr	0.00 %	
	Domestic Sewage Discharge	VAG406236		0.046	tons/yr	0.046	tons/yr	0.00 %	

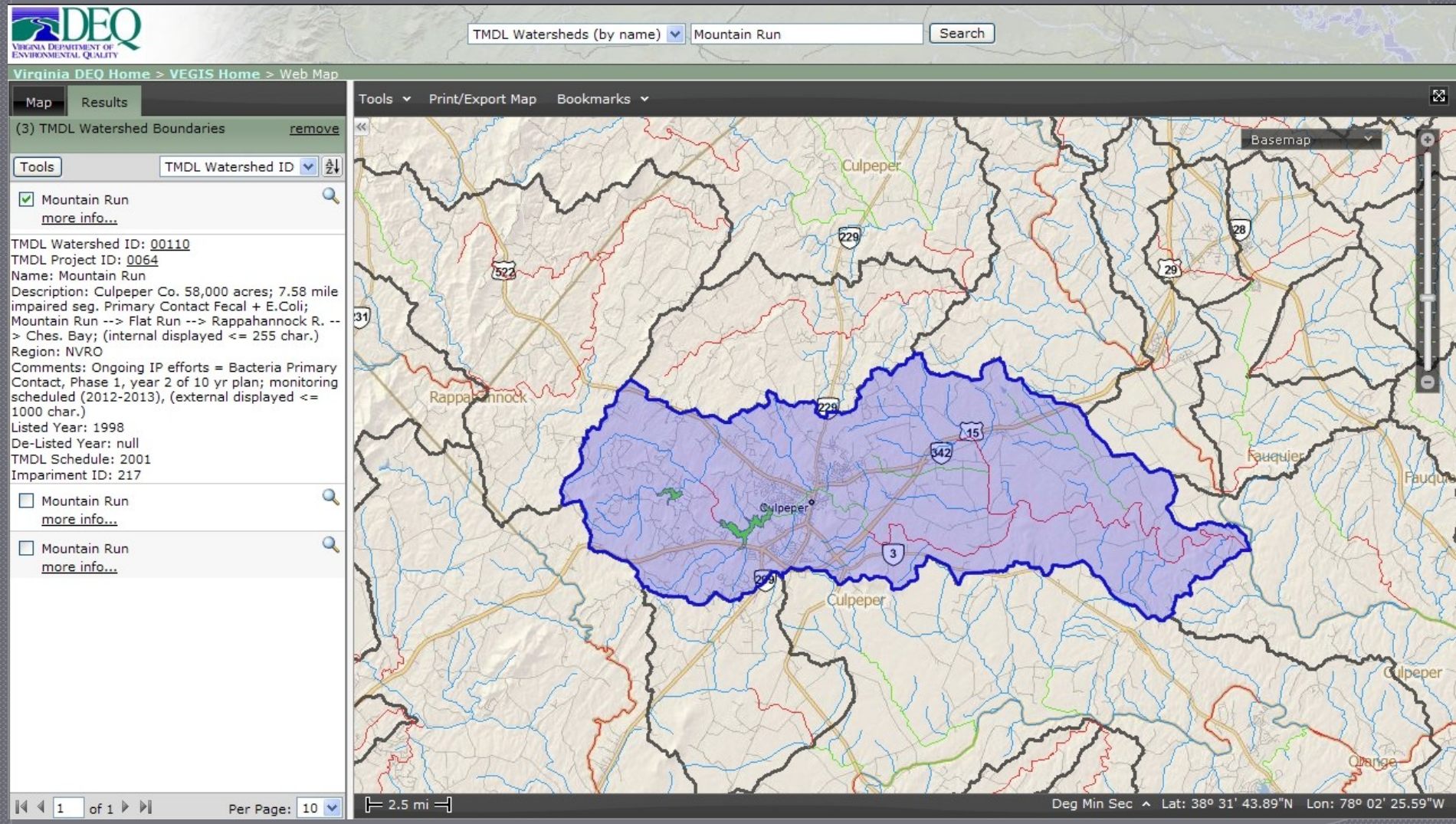
TMDL Equation "Calculator"



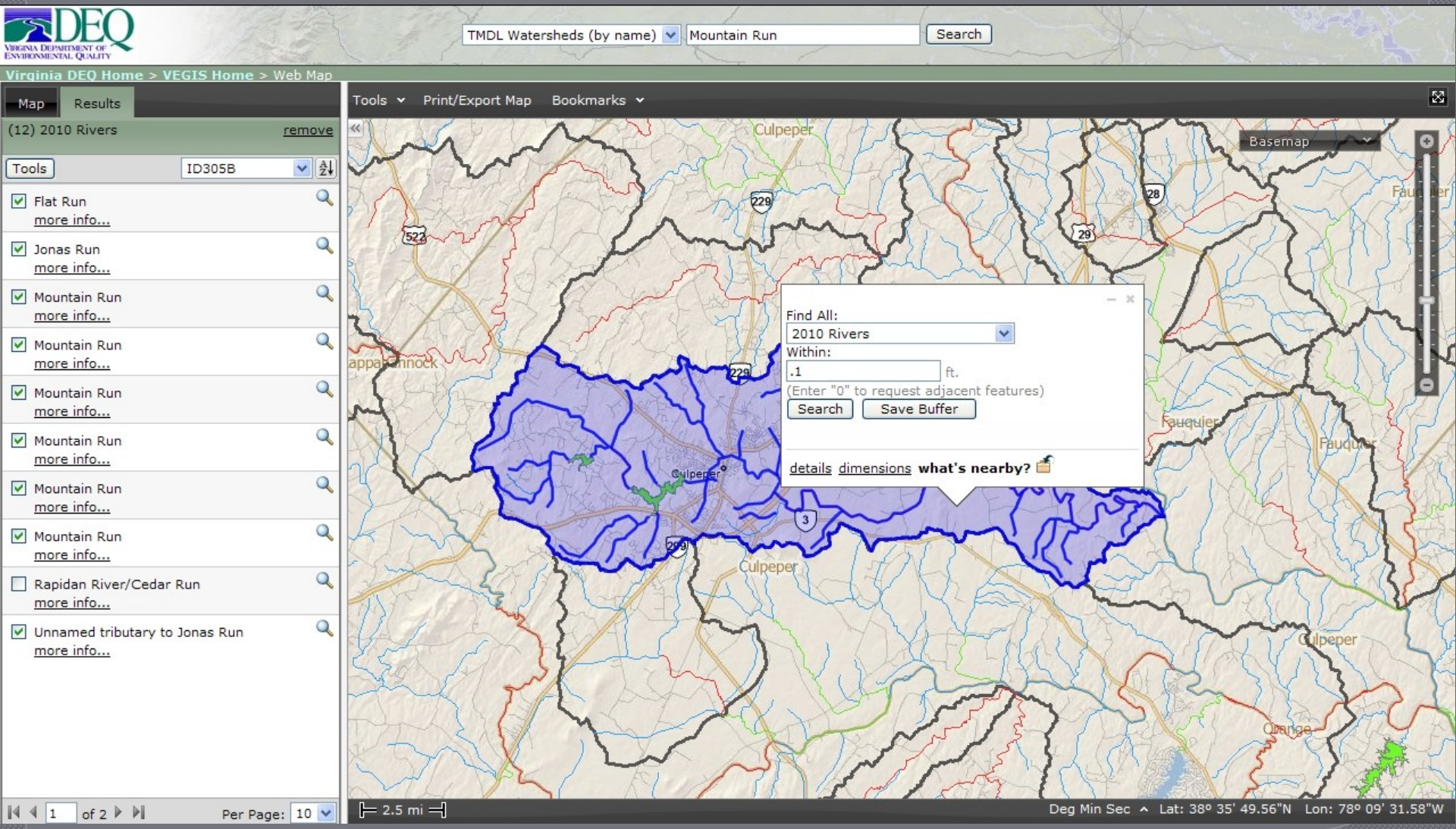
TMDL Permit


Welcome STMUELLER (Development | 0.0.0.0-dev)
Logout
TMDL
TMDL Permits
Save
Delete
Cancel
Project: 10212 > Watershed: 00234 > Equation: 236 > Permit: 236
* Indicates Required Fields
* Permit Type: VPDES IP
* Original Units: tons/yr
% of WLA: 0.00 %
Created By: STMUELLER on 4/13/2011
* Permit Number: VA0087891
* Original WLA: 0.2
% of TMDL: 0.00 %
Updated By: AMUELLER on 4/26/2011
Receiving Stream: Chestnut Lick, UT
Current Units: tons/yr
% Growth: 50.00 %
* Not All Outfalls Included: No
* Current WLA: 0.4
Is Included in TMDL: Yes
* Comments: ex

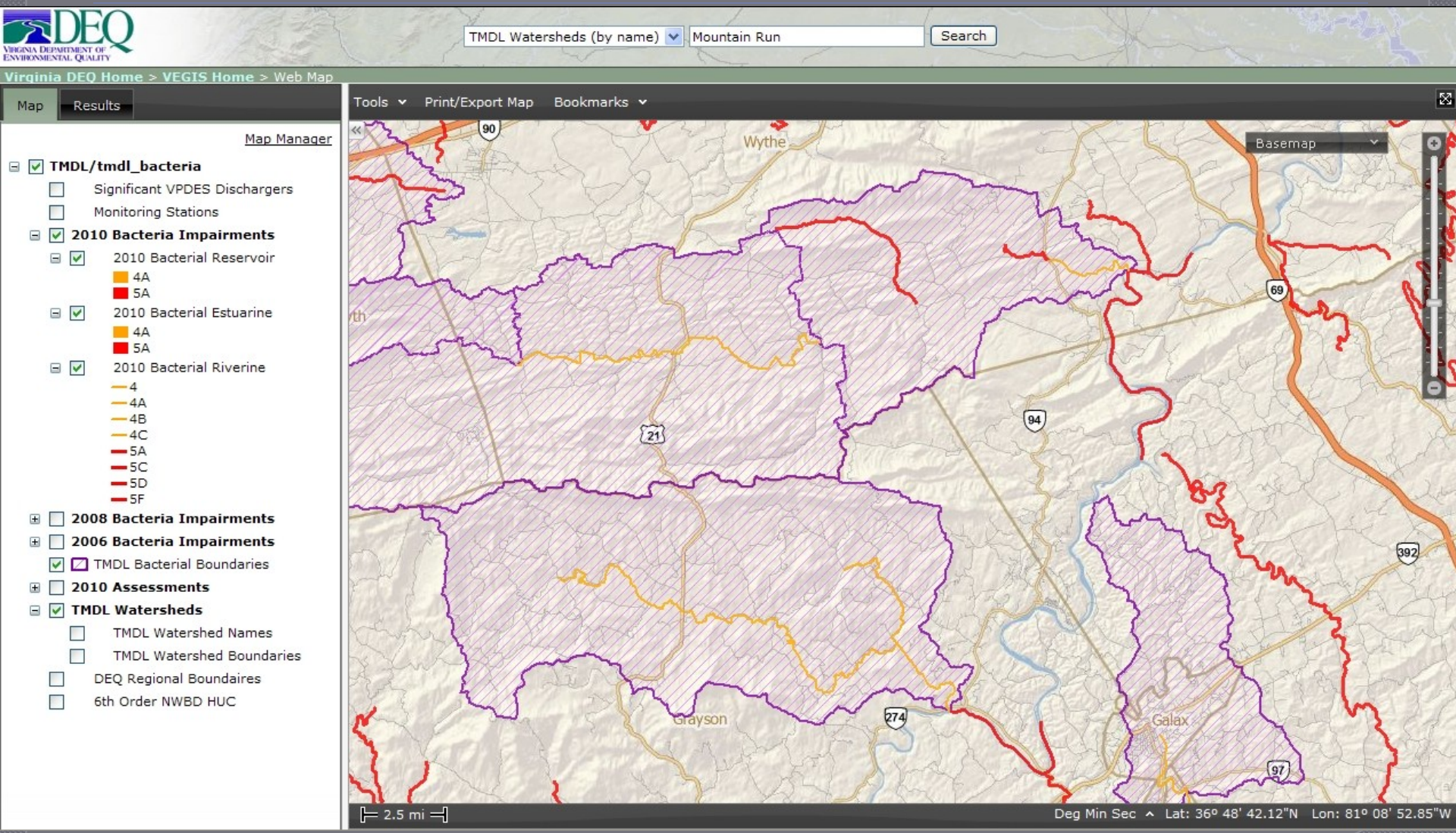
TMDL Module: GIS TMDL Search Feature



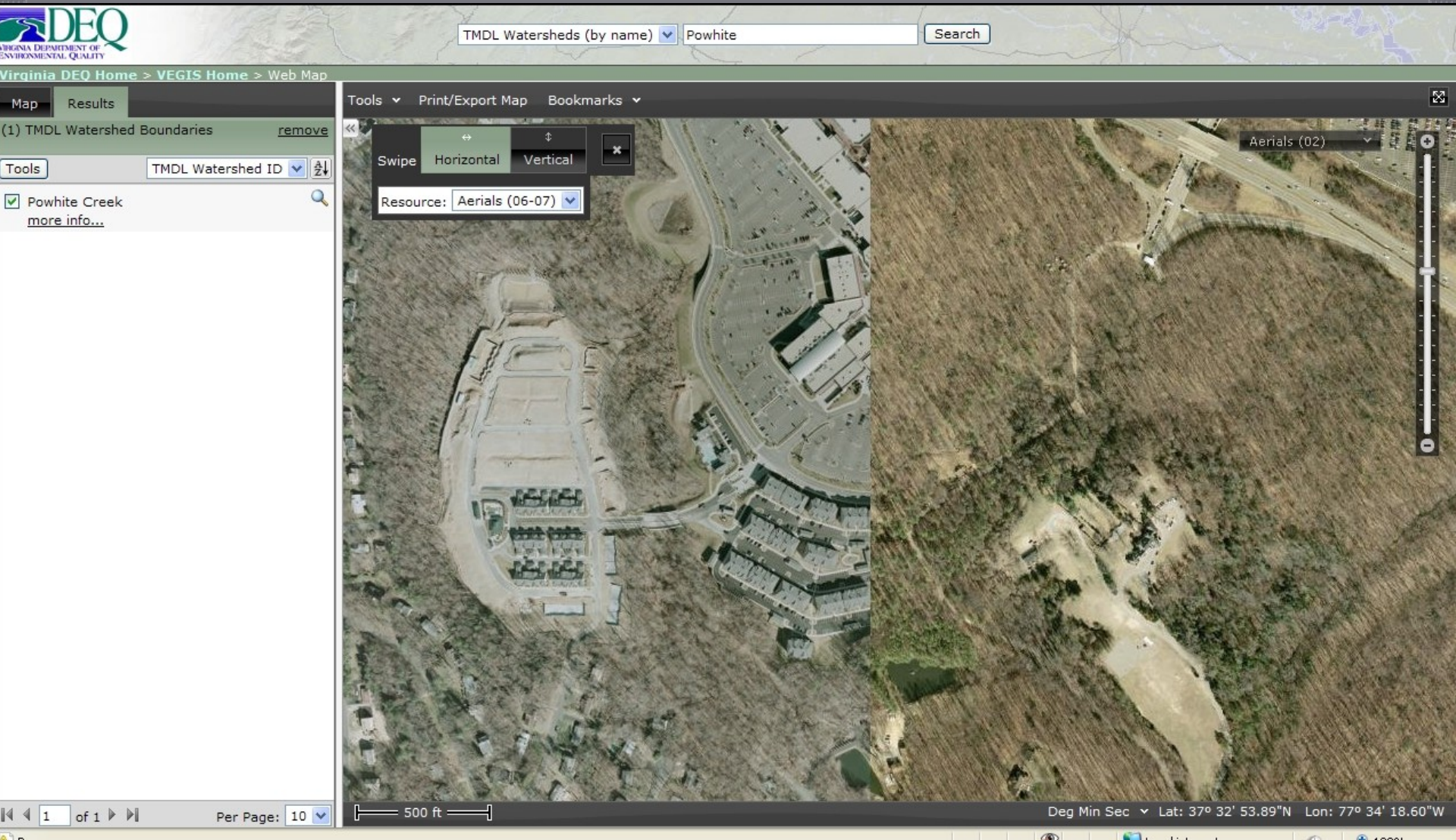
"What's Nearby" feature



Map Services: Bacteria TMDLs, Bacteria AUs



Swipe Tool


DEQ
Virginia Department of Environmental Quality
TMDL Watersheds (by name)
Powhite
Search
Virginia DEQ Home > VEGIS Home > Web Map
Map
Results
(1) TMDL Watershed Boundaries
remove
Tools
TMDL Watershed ID
Powhite Creek
more info...
Tools
Print/Export Map
Bookmarks
Swipe
Horizontal
Vertical
Resource:
Aerials (06-07)
Aerials (02)
1
of 1
Per Page:
10
500 ft
Deg Min Sec
Lat: 37° 32' 53.89"N
Lon: 77° 34' 18.60"W

Questions?

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